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|-----------------|-------------|----------------------|---------------------|------------------|
| 09/427,031      | 10/26/1999  | H. PAUL HOLZWORTH    | 1011.1018/MJ        | 2648             |

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EXAMINER

LEE, CHI HO A

ART UNIT PAPER NUMBER

2663

DATE MAILED: 03/10/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/427,031

Applicant(s)

HOLZWORTH ET AL.

Examiner

Andrew Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 30 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-88 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 21, 50, 79, 85 is/are allowed.
- 6) ☒ Claim(s) 1-13, 15-20, 22-26, 28-33, 35-49, 51-55, 57-59, 61-78, 80-84 and 86-88 is/are rejected.
- 7) ☒ Claim(s) 14, 27, 34, 56, and 60 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 2, 3, 12, 13, 15-20, 30-33, 35, 36, 37, 38, 43-49, 59-62, 64-67, 72-78 and 88 are rejected under 35 U.S.C. 102(e) as being anticipated by Ramamurthy U.S. Patent Number 6,046,981.

Re Claims 1, 30, 31, 37, 43, 59, 60, 72 and 88, fig. 1 teaches a CAC (an admission control device) for plurality classes for ATM service that includes a number of VBR connections, wherein the CAC assigns equivalent bandwidths (an EBW device) to plurality of VBR connections (See col. 11, lines 24-29); further teaches determining new equivalent bandwidths (increasing or reducing) to the according to equation (21) wherein the new rate is based on the various parameters such as UPC parameters in the equation (a scaling factors: a scaling unit) (See col. 12, lines 15-32); further teaches the maximum waiting time for cells and depending of the QoS guarantee of CDV, a equivalent bandwidth is recalculated based on the substitution of the parameter (adjusting the scaling factor); fig. 2 teaches in fig. 2, step 240 of determining whether to accept or refuse a new VBR connection (See col. 5, lines 1 +).

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Re Claim 2, refer to Claim 1, further teaches that the CAC needs only to store a set of information for all existing VBR connections that includes a sum of PCR, SCR, Burst wherein these quantities are updated (adjusting...variable speed traffic factor) when a VBR connections is admitted or disconnections (See col. 12, lines 33-56).

Re Claims 3, 7, 32, 38, 42, 45, 48, 49, 61, 67, 74, 77, refer to Claim 2, wherein the scaling factors (UPC parameters) are adjusted based on real-time (online).

Re Claim 12, refer to Claim 1, wherein additional bandwidth required to support new connections is by given by Delta (See col. 12, line 32), wherein the delta is a function of a UPC parameters for old and new rates (original and new scaling factors).

Re Claims 4, 15, 18, 33, 35, 36, 44, 46, 47, 62, 64, 65, 66, 73-76, 78, further teaches a CAC for CBR connections (See col. 7, lines 5 +) wherein equation 9 (See col. 9, lines 5 +) summing existing and new CBR connections; if the CAC determines additional capacity must be added to the current capacity to ensure QoS, a new rate is determined based on the parameters (a maximum scaling factor) of the equations, wherein the parameters in the equation are updated (adjusting the maximum factor) every time when a CBR connection is either admitted or disconnected.

Re Claims 5, 17, refer to fig. 2, step 240.

Re Claim 6, refer to Claim 4, it is clear that the CAC supports plurality of classes including CBR and VBR, when a new request arrives either CBR or VBR, the CAC calculates the amount of bandwidth needed to maintain to support the QoS of this connection, taking into account the connections that is already admitted and the availability of the free pool 230 (See col. 5, lines 1-25). The capacity of the port is

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distributed among plurality of ATM services including CBR, VBR, and UBR services (See col. 4, lines 23 + & fig. 2). In order to maintain the free pool, each the admitted connections per class is summed (summing existing CBR connections).

Re Claim 13, refer to Claim 4.

Re Claims 16, 19, refer to Claim 3.

Re Claim 20, refer to Claim 15, wherein the maximum scaling factor is a function of the parameters in equation 9.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 8-11 22-26, 28, 29, 39, 40-42, 51-55, 58, 68-71, 80-84, 86, 87 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ramamurthy U.S. Patent Number 6,046,981.

Re Claims 8, 10, 22, 25, 29, 39, 51, 54, 58, 68, 80, 83, 87 refer to Claim 4, CAC supports both UBR and VBR connections for admission control (to accept or refuse new UBR and VBR connection requests). The network manager has allocated bandwidth for UBR services (See col. 4, lines 23 +). Ramamurthy further teaches a Free Pool (See col. 5, lines 1-25) whereby the CAC draws resources to assign bandwidth for a new UBR connection requests. Since, a portion of resources are allocated for UBR services,

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one skilled in the art would have been motivated to monitor the UBR connections for admission control so that QoS for other higher priority classes are maintained, wherein the QoS parameter for UBR services can include the PCR and SCR. Ramamurthy fails to explicitly teach determining a equivalent or SCR for a new connection request not having a SCR. However, Ramamurthy teaches that ATM switches explicitly compute the rate using key parameters (scaling factors). This can be exemplified by the CAC for ABR connections (See col. 16, lines 28 +). In this case, the RIF (Rate Increase factor) control the amount by which the cell transmission rate may be increase upon receipt of an RM-cell for ABR connection. One skilled in the art would have been motivated by the key parameters used in ABR connection for UBR connections for link efficiency. By using the RIF parameter (adjusting SCR factor), the assigned equivalent or SCR rate of the UBR can be modified to increase transmission rate when idle resources are available. Therefore, it would have been obvious to one ordinary skilled to determine a equivalent or SCR for a new connection request not having a SCR.

Re Claims 9, 23, 40, 41, 52, 55, 69, 70, 81, 86, UPC parameter for the UBR includes the PCR to be multiplied by the RIF; wherein the CAC assigns (EBW device) equivalent bit rates for UBR connection; performs re-computing of scaling of the equivalent bandwidth using key parameters (scaling unit); further control admission control based on bandwidth summation (admission unit).

Re Claims 11, 24, 26, 42, 53, 71, 82, 84, wherein the scaling factors (key parameters in computing each of the equations associated with each class of services) are adjusted while on line.

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Re Claim 28, refer to Claim 4.

***Allowable Subject Matter***

5. Claims 14, 27, 34, 56, and 60 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

In combination with Claims 2 & 14; 25 & 27; 31 & 34; 54 & 56; 60 & 63, prior art fails to teach the a new variable speed connections is accepted if the following equation is satisfied as recited in claims 14, 27, 34, 56, and 60.

6. Claims 21, 50, 79, 85 are allowed.

***Response to Arguments***


7. Applicant's arguments with respect to claims 1-13, 15-20, 22-26, 28-33, 35-49, 51-55, 57-59, 61-78, 80-84, and 86-88 have been considered but are moot in view of the new ground(s) of rejection.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Lee whose telephone number is 703-305-1500. The examiner can normally be reached on Monday to Friday from 8:30AM to 6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on 703-308-5340. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

 **ANDY LEE**  
**PATENT EXAMINER**  
AI  
3/5/04